

CLAIMS

1. A method for eliminating development related defects referred to as polymer blobs in a photoresist mask formed at the surface of a semiconductor wafer comprising the
5 steps of:
- providing a semiconductor wafer having a photoresist layer formed thereon;
- exposing, baking and developing the photoresist layer as standard to produce a patterned photoresist mask; and,
- 10 heating the wafer for a time sufficient to reach a temperature in the 100-140°C range and without cooling it, rinsing the wafer with deionized water at a temperature equal or higher than the room temperature.
- 15 2. The method of claim 1 wherein said semiconductor wafer comprises silicon.
3. The method of claim 2 wherein the step of heating the silicon wafer is the step of post-development bake performed after the development but without the usual cooling.
- 20 4. The method of claim 3 wherein the silicon wafer is immediately rinsed after bake to avoid any cooling.
5. The method of claim 4 wherein the bake temperature is about 140 °C.
- 25 6. A method for eliminating development related defects referred to as polymer blobs in a photoresist mask formed at the surface of a semiconductor wafer comprising the steps of:

providing a semiconductor wafer having a photoresist layer formed thereon;

exposing, baking and developing the photoresist layer as standard to produce a patterned photoresist mask, wherein the rinsing sub-step is performed with deionized water (DIW) having a temperature in the range of 40-60°C instead of 22°C.

5 7. The method of claim 6 wherein said semiconductor wafer comprises silicon.

10 8. The method of claim 7 wherein the deionized water temperature is equal to about 60°C.

15 9. A method for eliminating development related defects referred to as polymer blobs in a photoresist mask formed at the surface of a semiconductor wafer comprising the steps of:

providing a semiconductor wafer having a photoresist layer formed thereon;

exposing, baking and developing the photoresist layer as standard to produce a patterned photoresist mask; and

20 submitting the wafer to an extra rinse with deionized water at a temperature in the 40-60°C range.

10. The method of claim 6 wherein said semiconductor wafer comprises silicon.

25 11. The method of claim 10 wherein the deionized water temperature is about 60°C.

12. A clean track system further comprising a heating device designed to heat the deionized water that is supplied to the developer modules in the 40-60°C range.

09256997-040801